



## COMMENTS OF THE CLEAN ENERGY STATES ALLIANCE

### **Advanced Notice of Proposed Rule-Making: Alternate Energy-Related Uses on the Outer Continental Shelf Docket No. RIN 1010-AD30**

The Clean Energy States Alliance (CESA)<sup>1</sup>, a multi-state coalition of state clean energy programs, submits the following comments in response to the general issues and specific questions in the Advance Notice of Proposed Rule-making, referenced above.

***1. Are there regulatory regimes, either in the U.S. or abroad, that address similar or related issues that should be reviewed or considered as MMS moves forward with the rulemaking process?***

Yes. The European Union has the greatest experience in terms of offshore wind development. CESA recommends that MMS review the *Copenhagen Strategy on Offshore Wind Power Deployment*, developed at the European Policy Seminar on Offshore Wind Power, Copenhagen,

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<sup>1</sup> CESA members include:

Arizona Department of Commerce – Energy Office	AZ
California Energy Commission	CA
Connecticut Clean Energy Fund	CT
Illinois Clean Energy Community Foundation	IL
Massachusetts Renewable Energy Trust	MA
Xcel Energy Renewable Development Fund	MN
New Jersey Clean Energy Programs	NJ
NYS Energy & Research Development Agency (NYSERDA)	NY
Long Island Power Authority - Clean Energy Initiative	NY
Ohio Energy Loan Fund	OH
Energy Trust of Oregon	OR
Sustainable Energy Fund of Central Eastern PA	PA
West Penn Power Sustainable Energy Fund	PA
Pennsylvania Electric Company Sustainable Energy Fund	PA
Metropolitan Edison Company Sustainable Energy Fund	PA
Sustainable Development Fund	PA
Rhode Island Renewable Energy Fund	RI
Wisconsin Division of Energy	WI

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October 2005, and the International Energy Agency's *Offshore Wind Experiences*, released June 2005. These documents recommend the pre-definition of development areas and one-stop permitting for developers – which is the core of the integrated site selection process that CESA is proposing.

CESA recommends that MMS adopt major elements of the approaches to wind siting being employed by the United Kingdom and by the BLM. We also recommend that MMS consider its own precedents for stakeholder consultation in the OCS oil and gas leasing program.

### ***UK Approach***

The UK framework for offshore wind development is described in the DTI document, *Future Offshore: A Strategic Framework for the Offshore Wind Industry*, November, 2002. The UK employs a strategic environmental assessment framework that ensures evaluation of the impacts of wind development in specific geographic focus areas through an initial planning stage, and then through environmental impact assessments of individual development applications.

For offshore wind development, the UK is using a phased Strategic Environmental Assessment (SEA) program, focusing initially on several strategic regions proposed for an initial round of licensing. The first phase SEA has allowed individual wind farms to go forward in the UK, despite lack of data and impact uncertainty. The estimated length of time to complete the initial SEA process for three areas was several years, and those blocks determined suitable by the SEA process are then released for licensing.

The initial SEA also was designed to provide recommendations for studies and monitoring required to collect needed data in order to ensure feedback and refinement of the SEA to inform future rounds of licensing. According to DTI's *Future Offshore* analysis, because of the challenges of conducting an environmental impact review for a new industry where potential impacts are unknown or uncertain, the best approach is a phased program, focusing initially on identification and analysis of the strategic regions appropriate for development scenarios.

### ***BLM Approach***

The BLM's approach to implementing its Wind Energy Development Program has significant similarities to the UK SEA framework. The new BLM wind program was developed through preparation of a programmatic EIS. See *Final Programmatic Environmental Impact Statement on Wind Energy Development on BLM-Administered Land in the Western United States* (2005).

The BLM planning framework involves the assessment of the potential impacts of various wind development scenarios on all BLM western lands, at the strategic or programmatic level, through a programmatic environmental impact statement, as well as on an individual project basis through later "tiered" environmental reviews. Through the PEIS, BLM developed policies,

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BMPs and minimum mitigation requirements, applicable to all potential development sites, to ensure potential adverse impacts are minimized to the greatest extent possible. For some resources, such as visual resources, mitigation is to be better defined at the project level to address site-specific concerns through individual EISs.

The BLM PEIS also establishes specific monitoring requirements that must be met throughout all phases of development. It requires BLM and wind developers to adopt adaptive management strategies to ensure potential environmental impacts are kept to a minimum. This includes requirements for periodic review and revision of programmatic BMPs, comprehensive site monitoring programs, including metrics for measuring impacts, and protocols for incorporating observations and new mitigation measures into standard operating procedures and project-specific stipulations.

- ***Program Area: Access to OCS Lands and Resources***

***How MMS should:***

- A. Provide access for resource and site assessment***
- B. Issue appropriate instruments***
- C. Solicit interest for development projects***
- D. Identify terms and conditions of use***
- E. Identify geographical areas of interest for site assessment and development feasibility***
- F. Ensure fair competition***
- G. Process permits and applications***
- H. Process pre-application resource assessments***

To select geographic areas for assessing development feasibility, CESA recommends that MMS employ programmatic EIS(s) that will inform the scale and location of development that would be acceptable in selected region(s). The PEIS(s) then would be available to developers to frame proposals for possible wind farm site development in the targeted regions. In addition to MMS funding of PEIS studies, a process should be established that allows for interested developers to commit funds to research and site assessment in an orderly manner and with some assurance that if approvals are eventually granted, they will have the development rights on clear and certain terms.

CESA recommends that MMS consult with developers, affected governors, state officials, and state agencies to determine initial sites for mapping and resource assessment pursuant to a PEIS. This process should involve the OCS Policy Committee, which could assist in identifying strategic regions for development based on wind databases and provisional indication of interest by industry and appropriate state officials. Key features that should govern identification of the strategic areas include proximity to grid connections serving important markets, offshore siting criteria conducive to cost-effective construction and operation of offshore wind farms, and avoidance of significant environmental impacts. Issues within these strategic regions then should be more closely examined and resolved through use of a regional stakeholder group.

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Upon completion of a PEIS, proposed applications for Agreements to Lease and subsequent leases should be invited in fixed rounds within the defined strategic regions.

CESA believes that it is sensible to offer site leasing options in geographically defined areas where development interest is most likely to be focused, rather than in an unrestricted, on demand manner, and in fixed rounds rather than on a continual rolling basis. In this way, the potential cumulative impacts, as well as site specific impacts, can be considered in reaching decisions on each application. This would encourage industry to develop in a controlled way within regions, which will provide a better basis for assessing and monitoring impacts. This approach also will benefit public and agency consultation as all relevant development proposals can be considered together rather than considering applications on an ad hoc basis. It also provides advantages to developers and regulators, such as the possibility of sharing survey work, sharing cable routes, and assessing the range of impacts together.

Wind energy site investigation and development applications should be offered under competitive bidding procedures in regions specifically identified through a PEIS process. It is expected, given the permitting assurances that an integrated process would give to developers, that a number of developers would be interested in pursuing development within the strategic areas evaluated in the PEIS. If this proves wrong, the processing of applications could be allowed on a first come basis.

Where there are multiple proposals for a particular site or area, MMS should determine whether the proposals are potentially compatible. MMS should encourage and guide efforts to harmonize proposals. If proposals are truly incompatible, CESA recommends employing a competitive process that focuses on the credibility of competing development plans.

The criteria against which proposed would be judged include:

- The credibility of the underlying development plan, including planned timetable;
- The quality of the resource management plan and its potential to minimize negative impacts to ocean resources and mitigate conflicts with other OCS uses;
- Experience in constructing wind energy generation and/or other generation technologies;
- Approach to obtaining necessary permits;
- Financial viability;
- Financial guarantees; and
- Environmental record.

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Applications should include information on the applicant's technical capability to construct, operate, and maintain wind energy facilities. The technical capability can be demonstrated by international or domestic experience with wind energy projects or other types of energy-related projects. The applicant also should be required to provide information on the availability of sufficient capitalization to carry out development, including the preliminary study phase of the project, as well as site testing and monitoring activities.

CESA does not recommend allocation of leases by auction or market-based mechanisms or based on the size of bonus bids or financial consideration. An auction is not appropriate during the period when the offshore wind industry is developing, largely because of the considerable economic and financial uncertainties which will continue for some time. Rather, the competitive process should focus, within the context of a PEIS, on the credibility of the competing development plans, the scale of development proposed, and mitigation of wider impacts.

Development outside strategic areas would be permitted (but not encouraged by MMS) in some circumstances, where a PEIS has not been undertaken, based on a credible environmental screening by a developer. MMS should actively encourage pilot and demonstration projects, without requiring completion of a PEIS as a prerequisite.

Additional PEIS(s) would be carried out before an announcement of any future round is made. The time between rounds for strategic areas should be related to the interest in offshore development and investment and in accordance with the development of technologies that allow turbines to be sited in deeper water and further offshore. A period of three years is proposed as an appropriate interval between rounds in strategic areas. This would allow for a reasonable cycle of exploration and learning from early projects.

### ***Rights and Responsibilities:***

Within strategic regions subject to PEIS review, MMS should grant exploration rights for developers to investigate a site and subsequently the rights to develop that site. MMS first should issue an "Agreement for Lease" that provides developers with an exclusive area to investigate while allowing them some flexibility during the early investigation phase to redraw the area they wish to develop on the basis of early consultations, investigations, and site assessments. In considering applications for site assessment and leasing, CESA recommends a flexible, pragmatic approach to allowing developer access to sites, permitting developers to specify exactly what they propose, both in terms of size of the site and scale of generation capacity.

Developers will need to be given assurances on the exclusivity rights and size of the areas they will be able to investigate and subsequently develop. The scale of development and location selection should conform with the guiding principles of the PEIS, while allowing reasonable flexibility as the project investigation proceeds.

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Wind farm developers should be granted exclusive development rights in areas where they have financed investigation. However, if a company is granted the right to investigate a particular area and fails to explore the area properly and diligently, or to turn good prospects into subsequent development proposals, it should lose its rights.

The Agreement for Lease should contain a mechanism under which, if the agreed investigation and development plan is not met, the exclusive area can be reduced or withdrawn. Under the Agreement for Lease, companies should retain the exclusive right to develop in the area that they have investigated for a period of three to five years after completion of the agreement.

Once all permits have been secured, the Agreement for Lease should allow the development Lease to be granted to the developer. Again, there should be provisions under which the developer is committed to fulfilling the development plan. The leasing regime should include a mechanism whereby leases must be surrendered if companies do not carry out the development plans. This could be done by renewing the lease after a fixed period, conditional on the progress that the company has made. A lease therefore should have a timetable for development, with break points in the absence of action. Specifically, the lease should specify that the lessee commits to due diligence with reasonable construction methods to begin construction within a specific period of time (2 years). If construction of the wind energy facility has not commenced within that specified time period after the effective date of the grant or consistent with a timeframe of an approved plan of development, the holder should provide MMS with just cause as to the nature of the delay, the anticipated date of construction, and evidence of progress toward commencement of construction. Failure of the holder to comply with the due diligence provisions should provide the MMS with authority to terminate the authorization.

CESA believes that the appropriate instruments to be utilized by MMS is an exclusive lease for the right to construct a wind facility on the OCS and a ROW grant to run the transmission lines through federal waters. Each lease should contain a clause ensuring that a ROW grant runs concurrently with the lease.

The period of the lease should be sufficient to allow the developer an adequate time in which to recoup the capital invested and risks taken in the development of the project. To reflect the capital intensive nature of offshore wind energy and the high risk involved with developing this new technology, CESA recommends that the lease should be for a minimum period of 50 years. This will give developers and financiers a clear investment signal for supplying the capital intensive infrastructure needed for large offshore wind projects. Leases should include a clear option for extension (pending BMP retrofit requirements).

Clauses should operate barring the lessee from selling, assigning, encumbering, transferring or granting easements under the lease without MMS's consent.

The lease should require the developer to submit decommissioning plans and to comply with

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decommissioning obligations prior to the determination of the lease. A financial surety in the form of a bond or substantial financial deposit should be required. See discussion below at section Y.

***J. How should MMS minimize multi-use conflicts?***

Offshore wind facilities have the potential to affect a broad range of resources and ocean uses. The spectrum of these impacts is not well understood, however, due to a lack of focused scientific investigation to date. Most existing research is based on terrestrial turbines or European offshore facilities.

CESA believes that use of a PEIS, and input from the OCS Policy Committee, and a regional stakeholder consultation process to assess and identify environmentally preferred sites will facilitate the minimization of conflicts. Use of risk assessment methodologies – primarily for assessing potential impacts to avian and marine life – also should be used to assess the overall suitability and potential conflicts within a large region. In addition, many conflicts can be reduced through development of best management practices, similar to those established by BLM.

***Specific questions:***

- 2. Possible development scenarios include phased access rights, which would allow for resource and/or site assessments and research prior to securing additional access rights. Rights could be permitted on a case-by-case basis. Development rights would be secured by a competitive process. An alternative would be to require that interested parties secure the access rights to an area prior to conducting assessments and research. Please comment on these possible options.***

CESA recommends a PEIS process through which MMS and a regional stakeholder group would perform significant upfront site assessment and research prior to allocating development rights in strategic regions. Developers should be granted limited access rights to assess areas identified by the PEIS, prior to competitive bidding. Full access to sites for permitting studies and site planning then would be competitively allocated under an Agreement to Lease. The Agreement to Lease would allow a company an exclusive right to investigate a particular area for a fixed, reasonable period with an option to obtain a Lease based on the investigation. Under the Agreement to Lease, a company should retain the sole right to develop in the area that they are investigating for a period of three to five years after the completion of the Agreement. The Agreement to Lease would provide for the formal grant of a Lease once all permits had been granted.

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**3. *How should MMS estimate a fair return, especially if the competing use would likely be public uses?***

In estimating a fair return, MMS should consider the inherent public benefits of emission-free renewable energy, the non-extractive nature of wind generation on the OCS, and Congress' efforts, through the production tax credit, to encourage the development of wind energy.

**4. *What constitutes a geographical area of interest?***

CESA recommends that MMS consult with developers, state officials, and state governors and agencies to determine initial regions and sites for mapping and resource assessment pursuant to a PEIS process. MMS should solicit comments concerning which areas to intensify focus within for the §388(b) mapping initiative. Weight should be given to comments that cite prior detailed resources assessments.

MMS also should convene formally-constituted regional stakeholder groups, with significant participation by state governments with relevant statutory obligations and affected local governments, to identify appropriate strategic study regions and identify/screen sites with promising development characteristics.

The OCS Policy Committee also should be asked to consider whether the system of tracts within planning areas in the OCS oil and gas leasing program can be used for wind and other renewable energy development, and whether the leasing terms connected with the oil and gas leasing program are appropriate for wind development.

Other factors that MMS should consider in selecting the strategic regions include wind databases, provisional indication of interest by industry and appropriate state governors and relevant energy agencies, proximity to grid connections serving important markets, offshore siting criteria conducive to cost-effective construction and operation of offshore wind farms, and avoidance of significant environmental impacts.

**5. *What assessments should MMS require prior to competition?***

A PEIS should be completed prior to competition for leases. The objective of the PEIS should be to provide adequate assessments to identify potentially acceptable development sites to be offered through a competitive process. Then, in evaluating competing development proposals, MMS should require assessments of the financial standing of candidates, their offshore development and energy development expertise, and the quality of the environmental assessments. See recommended criteria above on p. 4.

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**6. *How should MMS structure the competitive process and the application process used to issue OCS access rights? Should MMS auction access rights or engage in direct negotiation?***

The tender procedures should be carefully designed within the context of both energy and environmental policy objectives. The procedures will need to ensure compatibility with the requirements of the PEIS, create a framework that will encourage investment in a developing industry, and create potential opportunities for cooperation between developers.

CESA does not recommend a formal auction or financially-based allocation method. Instead, the allocation process should focus primarily on the credibility of competing development plans. See criteria identified above at p. 4. Developers should be granted limited access rights to assess the site prior to competitive bidding.

**7. *Should MMS take a broad approach to developing a program, or should efforts be targeted to specific regions?***

CESA recommends that MMS undertake a broad national program, the parameters of which can be framed in discussions with the OCS Policy Committee and through other stakeholder outreach mechanisms. However, the national program should be executed through development of programmatic environmental impact statements on the regional level by MMS Regional Directors. Strategic regional planning areas would be evaluated further for development feasibility based on a region-specific stakeholder site selection process. A regional stakeholder group should be comprised of affected state, federal, and local agencies and officials and other stakeholders (environmental NGOs, wind industry, etc.) to guide the identification of focused planning areas in each region and the development of the PEIS. Initial suggested regions should mirror those originally established for OCS oil and gas leasing and should include: North Atlantic; the Mid-Atlantic; the South Atlantic; the Eastern, Central, and Western Gulf of Mexico; the Northern Pacific and Southern Pacific Regions; and the planning areas in Alaska.

**8. *How should MMS consider other existing uses when identifying areas for access?***

*and*

**9. *How should MMS balance existing uses within an area with potential wind and current energy projects?***

To balance competing uses, it is important for MMS to establish itself as the lead agency for leasing and for environmental permitting at the federal level for offshore wind projects. As lead agency, MMS would have primary authority to balance and arbitrate between competing environmental, economic, resource, and recreational interests. As designated lead agency, MMS should have authority to review and comment on all proposed permit conditions requested or

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required by other federal agencies and to determine the proper balance between conflicting agency objectives and responsibilities.

As lead agency, however, MMS should strive not to approve wind energy development in areas in which the development is incompatible with special resource values, such as areas of critical environmental concern and marine reserves. Additional areas should be excluded on the basis of findings of significant resource impacts that cannot be mitigated. To the extent possible, wind energy projects should be developed in a manner that will not prevent other uses, such as recreational or commercial fishing.

In reaching leasing decisions, MMS should consider the values of other OCS resources and the potential effects that OCS wind activities could have on those resources and on the marine, coastal, and human environment. MMS should employ a decision-making process similar to the one it employs for the OCS oil and gas leasing program. As in that program, MMS alternate-energy leasing decisions should strike a balance between environmental risk/sensitivity and developmental potential based on a consideration of the section 18 criteria of the OCS Lands Act. (See fuller discussion below at response #11).

In using its discretion to determine this balance, MMS should strive to protect other uses of the OCS from significant impairment or conflict with offshore wind leasing including:

- Commercial fishing
- Essential fish habitat and habitat areas of particular concern pursuant to section 303(a)(7) of the Magnuson-Stevens Fishery Conservation and Management Act
- Other areas of special concern (offshore areas designated for special uses and protections, such as parks and sanctuaries)
- Tourism and recreation
- Military operations
- Areas of high avian use

MMS also should determine that any leasing activity is consistent with the laws, goals, and policies of affected coastal states, through active consultation with state agencies and state officials during the PEIS process and during project-specific reviews. A robust consultative decision-making approach is the best path to ensuring environmentally-sensitive siting that is supported by state officials and local communities, reducing conflict, litigation, and delay.

CESA recommends separate and distinct programs for offshore wind and wave/tidal energy systems. However, MMS should also develop a program that would keep track of the areas each program is examining to avoid potential conflicts in siting.

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***10. Should MMS require permits for collecting data from vessels? Should we consider this information proprietary? What criteria should we use for holding the information proprietary?***

MMS should require permits for private collection of data regarding alternate energy resources within the PEIS framework. Because CESA recommends an open and transparent stakeholder site selection process in developing a PEIS, all data concerning an area's resource potential should be public.

However, MMS should hold as proprietary the fiscal stability assessment for developers, required to participate in the competitive bidding.

As to information developed by a private developer under the terms of a data collection permit or an Agreement to Lease, there is public interest in ensuring that the geological, meteorological and environmental information obtained during the investigation period be made available to others at a later date. Companies should be required to share their information with the MMS, although provided with assurances that the information will not be made available to third parties during the period in which the company has secure rights to development.

***11. What criteria (e.g. environmental considerations, energy needs, economics) should MMS consider in deciding whether or not to approve a project? What criteria should MMS consider for different competing projects (i.e. wind versus current) for the same site?***

The MMS should employ the process and criteria it applies to render decisions on the timing and location of oil and gas leasing. It would be inequitable to impose more onerous criteria on leasing considerations for alternate energy projects than the criteria used for making OCS oil and gas leasing decisions. Therefore, MMS should apply, as applicable, the section 18 criteria. The section 18 requirements require MMS to consider and examine the following factors in balancing environmental risk and development potential:

- Meeting the nation's future energy needs;
- The values of other OCS resources and the potential effects that OCS energy-related activities could have on those resources and on the marine, coastal, and human environment;
- Geographic, geological, and ecological characteristics;
- Equitable sharing of development benefits and environmental risks;
- Location with respect to regional and national energy markets;
- Location with respect to other uses of the sea and seabed;
- Interest of potential companies in leasing areas;
- Laws, goals, and policies of affected states;

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- Relative environmental sensitivity and marine productivity;
- Environmental and predictive information.

In assessing environmental risk, the MMS should consider:

- Potential hydrological effects (including physical effects at the site and adjacent coastline through changes in sediment transport, etc.);
- Interference with other marine activities;
- Potential risk to fish and other marine life, including mammals and birds, from contaminants, noise, and vibration;
- The effects of increased turbidity and potential for smothering/burial of benthic flora and fauna;
- Any adverse implications for designated marine conservation areas.

In evaluating environmental risk, the MMS should take into consideration the environmental benefit of generating energy using the renewable resource of offshore wind. Development of offshore wind on the OCS should be strongly supported by MMS because of its positive contribution to reducing greenhouse gas emissions and to creating a more sustainable approach to energy production. Over the course of the life-cycle of a wind farm (from construction to decommissioning and eventual disposal), the emissions of carbon dioxide and other emissions are significantly lower than other electricity producing technologies.

The MMS also should consider the extent that renewable energy sources will reduce the impacts associated with current patterns of electricity production, and could have indirect, beneficial effects to fisheries. These beneficial effects include offsetting atmospheric deposition of mercury and nitrogen oxides, which impairs water quality.

- ***Program area: Environmental Information, Management, and Compliance***

***K. Information requirements needed for environmental management systems for any project***

The MMS should develop an environmental management and monitoring system for offshore wind development that gives high design priority to ensuring environmental and use compatibility and to implementation of effective mitigation of impacts. The system should be designed to reduce known impacts while improving the understanding of the effects of offshore wind development on marine ecosystems.

CESA recommends an “adaptive management” framework for environmental management. Under an adaptive management approach, the prevention and control of impacts from offshore wind farms will depend on the implementation of effective mitigation and monitoring measures. Under adaptive management, MMS should require project development plans to include a specific environmental management plan to be implemented through four phases:

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1. development of environmental objectives;
2. implementation of mitigation measures;
3. monitoring and evaluation to determine if management objectives are met; and
4. revision of the plan via use of monitoring results.

A program of environmental monitoring and adaptive management should be developed by MMS with the input of a scientific advisory board, including academic and government scientists who can help to develop an appropriate set of protocols for data collection and adaptive responses to unacceptable environmental impacts.

***L. Assessments and studies of risks and impacts (site-specific and cumulative) associated with offshore energy and alternate use projects***

The MMS should review the following assessments relative to offshore wind projects:

- UK Offshore Wind Energy Generation: Phase 1 Proposals and Environmental Report for consideration by the Department of Trade and Industry, BMT Cordah Limited, 2/7/03.
- Cape Wind draft environmental impact statement.
- Interim Report, Blue Ribbon Panel on Development of Wind Turbine Facilities in Coastal Waters, State of New Jersey, November, 2005.

Further, all of the studies cited in CESA comments to question 1 above, have relevant sections on site-specific and cumulative impacts of offshore wind development.

***M. Examples of best practices for environmental compliance, monitoring, and effectiveness being used in the U.S. and elsewhere***

See:

- BLM Programmatic EIS for Wind Development (2005).
- The European Union Network for the Implementation and Enforcement of Environmental Law, in June 2001, released a Best Practice in Compliance Monitoring Report.
- The USEPA has an extensive site on compliance monitoring:  
<http://www.epa.gov/compliance/monitoring/>.
- International Network for Environmental Compliance and Enforcement.

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- Safety, monitoring and enforcement regimes already in place under MMS for the OCS oil and gas exploration program.

#### ***N. Balancing environmental considerations with national energy needs***

In weighing other OCS non-energy resources and the potential effects of renewable energy activities on those resources, MMS should formulate a program and decision-making process that is designed ultimately to best meet national energy needs.

The MMS alternate energy program should be guided by the mandates of Executive Order 13212, “Actions to Expedite Energy-Related Projects”, issued May 2001. The E.O. requires that federal agencies take appropriate actions, to the extent consistent with applicable law, to expedite projects to increase the production, transmission, or conservation of energy.

Therefore, each leasing decision should be evaluated in terms of the value of the national energy benefits that would be anticipated as a result of the proposed leasing and ensuing wind energy production, as well as in terms of the potential environmental impacts. In considering environmental impacts from leasing decisions, the MMS also should explicitly recognize the negative environmental impacts that could occur from importing oil from other countries, related to replacing foregone OCS wind production.

The MMS decision-making approach should encourage and facilitate renewable energy generation on the OCS, as one of the key policy measures to address climate change and energy security. At the same time, given the many policy interests (marine habitat, navigation, etc.) that are likely to be affected by marine renewable energy development, it is essential that MMS adopt a truly integrated approach, as recommended by CESA, for (1) upfront strategic planning and (2) for review and permitting of specific development applications. An integrated approach will assist in facilitating siting that minimizes conflict with other OCS values and uses.

The MMS regulatory framework also should expressly recognize the unique capability of offshore resources to contribute to provide climate change and energy security benefits to the nation. While many renewable resources offer these benefits, the particular advantage of offshore renewable development is the potential for greater public acceptability, chiefly the likelihood of lower visual impact. For example, on land, wind farms can have a conspicuous visual impact, leading to siting difficulties. Offshore, the visual impact is likely to be less significant, and the area of potentially suitable seabed much greater than for onshore sites. The lower visual impact offshore means that it will be possible to build much larger turbines than might be acceptable on land, with capacities in excess of 2MW. This benefit will be further augmented by the higher wind speeds encountered in the ocean.

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***Specific questions:***

***12. What types and levels of environmental information should MMS require for a project?***

CESA recommends a tiered approach to the environmental management and information system implemented by MMS.

***First Step: MMS Should Develop Programmatic Level Environmental Information***

The MMS should take lead responsibility for identifying and assessing environmental impacts at a strategic level through development of a strategic offshore wind energy development plan, informed by a PEIS(s). This process would provide a basis for project-level risk assessment and will inform developers as well as agencies involved in the decision-making process on individual project applications. Through the PEIS process, the MMS objective should be to address comprehensively the potential impacts to marine resources from proposed offshore wind development scenarios and provide some minimum standards for project-level environmental review and information requirements.

At the programmatic level, MMS would take primary responsibility to undertake an environmental screening study of strategic areas identified as the focus of initial development. Through this screening study and the section 388 mapping initiative, MMS should assemble available environmental information to inform the offshore wind leasing siting process and to develop BMPs. MMS should engage industry, state and federal agencies, academic research institutions, and environmental groups to perform this initial environmental assessment. At this screening-level, MMS will require environmental information that:

- Identifies site characteristics that would be appropriate and less appropriate for wind development;
- Documents existing uses such as Marine Protected Areas, EFH, and sensitive habitat types, migratory corridors, high bird use areas, commercial fishing areas, shipping lanes, etc.;
- Creates a GIS information system on ocean uses;
- Identifies broad research needs and information gaps.

The MMS then should develop comprehensive policies and BMPs applicable to all wind projects, as BLM has done for BLM-administered lands. Creation of programmatic policies and

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BMPs would reduce environmental information requirements, minimize delays and reduce costs for individual project review.

The MMS policies should:

- Identify preliminary criteria for areas of the OCS where wind energy development would not be allowed or should be avoided;
- Set requirements for public involvement and consultation with other federal and state agencies;
- Establish government to government consultation protocols;
- Define the need and information requirements for project-level environmental review;
- Incorporate adaptive management strategies;
- Establish environmentally sound and economically feasible BMPs to protect marine resources;
- Identify issues and concerns that must be address in project-specific plans.

Through the BMPs, MMS should establish effective mitigation measures that can be implemented to address many of the direct and indirect adverse impacts that could occur. For some resources (sediment redistribution, offshore processes, benthic environment), MMS can establish standard minimum requirements that would effectively mitigate impacts at all potential development sites. For other resources, however, such as ecological and visual resources, mitigation will be better defined at the project level to address site-specific concerns.

The PEIS and BMPs would not eliminate the need for detailed analyses at the project level. Rather, they would serve to reduce the number of site-specific issues that must be evaluated in detail at the project level to site-specific and species-specific issues and concerns. The PEIS would bring focus to project-specific reviews. Through project level review, developers then would be responsible for addressing specific information requirements and for examining specific mitigation measures.

Implementation of the proposed policies and BMPs also would considerably reduce potential impacts to marine ecosystems, mammals and fisheries by requiring that developers address these issues comprehensively in specific development plans and by providing some minimum standards for mitigation.

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### ***Prediction and Evaluation of Impacts & Risk***

Through the PEIS, MMS should attempt to predict and evaluate the significance of the impacts of alternative development scenarios in strategic focus areas on important receptors (marine mammals, benthic communities, birds, etc.). The MMS objective should be to establish a consistent method of evaluating impact significance or “risk” based on a clear set of criteria.

For each strategic area, MMS should focus on an analysis of the likelihood of an impact occurring and the expected consequences. Particular attention should be paid to identifying and isolating key areas of uncertainty, e.g. baseline data gaps or lack of knowledge about impacts that make prediction difficult. To the extent possible, impacts should be quantified. Some impacts can be described qualitatively using the professional judgment of an advisory technical team to MMS, based on literature review and experience with existing offshore developments. All impacts should be evaluated in terms of their significance based on the use of a risk-based approach that has been previously used to assess impacts to the marine environment.

In the PEIS, the MMS should work to develop benchmarks or ceilings of acceptable risk that could be used to screen out certain projects because of unacceptable level of adverse impact. Such risk assessment guidance would be useful to inform developers on site selection. It also would provide assurance that each new site approved would not set a precedent, but rather provide additional information on which risks are acceptable and which are not.

### ***MMS-led Additional Studies***

Many impacts of offshore wind development are uncertain, including impacts on bird populations, of vibration on the navigation of cetaceans, and of electromagnetic fields on fish. Given the level of uncertainty, MMS should establish and lead a coordinated approach to research, beginning with development of an overarching strategy for data collection.

As a basic approach to increasing the information base, CESA recommends that the collection of monitoring data should be made a condition of all leasing stipulations and permits. MMS should use this opportunity to ensure that the data contribute to an overall scheme designed to explore the uncertainties and quantify environmental risks, especially those with major, irreversible, or cumulative consequences.

The MMS also should consider establishing a dedicated Study Fund for the purpose of supporting generic environmental studies to assist in the early stages of development of the offshore wind industry. The Fund could be based upon various royalty payments and the interest accruing from financial deposits made by developers. The Fund should be advised by a steering group of appropriate stakeholders and representatives from academic institutions and federal and state agencies, in a manner similar to the oil and gas Environmental Studies Program. The Fund

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could be located in the Environmental Studies Program, but it should be dedicated to studies related to alternate energy impacts.

There are a number of studies that MMS should initiate as soon as possible in selected strategic planning regions to provide valuable future information as the offshore wind development program evolves. The studies should be designed to fill the following baseline data gaps:

- Potential effects of noise and vibration on marine mammals;
- Potential effects of electromagnetic fields on fish;
- Bird study methodologies;
- Displacement of birds from benthic feeding areas;
- Distribution and main flight paths of seabirds including migratory and feeding/roosting patterns and their behavioral response to wind farms;
- Distribution of marine mammals and their behavioral response to wind farms;
- Location of areas of significance for marine mammals;
- Landscape/seascape assessment methodology;
- Characteristics of nearshore fisheries;
- Quantitative data with respect to recreational navigation movements; and
- Variability of key bird species sensitivity to wind farm impacts during different weather conditions and times of year.

***13. What types of site-specific studies should MMS require? When should these studies be conducted? Who should be responsible for conducting these studies?***

The MMS should be responsible for strategic level studies in a PEIS process while developers should be responsible for project-level studies in a tiered EIS process.

Development of programmatic environmental impact statements and use of an integrated stakeholder process upfront by MMS to evaluate targeted geographic regions will significantly focus and reduce the scope of site specific studies required for individual projects. Then, as a condition of the Agreement to Lease, the specific environmental and visual impacts of individual development proposals should be assessed by the developer.

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### ***Site-Specific Study Requirements***

Under an Agreement to Lease, developers should be required to review existing information on species and habitat in the vicinity of the project area to identify potential concerns. Developers should be required to develop a project-specific environmental management plan that incorporates all BMPs developed by MMS in the PEIS. Additional mitigation measures should be incorporated to address site-specific and species-specific issues.

The MMS should require that a project-specific risk assessment be carried out by the lessee, and incorporated in the individual EIS. Risk based analysis should be performed on the main concerns for offshore wind farm development, including potential impacts on:

- Sediment transport processes;
- Biodiversity habitats and species;
- Birds, including collision risk, displacement and barrier effects on birds;
- Navigation, including increased collision risk for all vessels;
- Visual integrity of seascape, landscape;
- Benthic fauna;
- Fisheries (including shellfish);
- Recreational uses;
- Noise impacts on cetaceans;
- Electromagnetic fields on elasmobranchs.

The developer should be responsible for conducting these site specific studies, pursuant to a study plan approved by MMS, after consultation with other state and federal agencies with permitting jurisdiction, and the study plan should be made a condition of the Agreement to Lease.

### ***14. What should be the goals and objectives of monitoring, mitigation, and enforcement?***

The goals and objectives of monitoring and mitigation should be effective and accountable implementation of adaptive management.

CESA also recommends that MMS establish programmatic policies and BMPs with the objective of ensuring that potential adverse effects resulting from wind development on the OCS would be mitigated to the fullest extent economically feasible. Any potential adverse impacts that cannot be addressed at the programmatic level would be addressed at the project level where resolution of site-specific and species-specific concerns is more readily achievable.

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The MMS should adopt adaptive management strategies regarding wind energy development. Programmatic policies and BMPs would be reviewed and revised to strengthen mitigation measures as new data regarding impacts of offshore projects become available. This can be done under the auspices of the existing OCS Scientific Committee, and presented for review to the OCS Policy Committee.

At the project level, companies should be required (a) to develop monitoring programs to evaluate environmental conditions at the site through all phases of development, (b) to establish metrics against which monitoring observations can be measured, (c) to identify potential mitigation measures, and (d) to establish protocols for incorporating observations and new mitigation measures into standard operating procedures and project-specific BMPs.

***15. What types of impacts are of concern? What are effective approaches for mitigating impacts? How can mitigation effectiveness and compliance with Federal environmental statutes be assessed?***

CESA believes that the environmental review framework that we propose here – employing a tiered environmental impact evaluation process – is the most effective approach to identifying, avoiding and mitigating the potential impacts from offshore wind development. The process is designed to effectively focus on early identification and avoidance of impacts of concern.

First, MMS should undertake a programmatic EIS to evaluate the likely significant environmental effects of alternative wind development plans in strategic regions. Subsequently, developers of specific offshore wind farms are responsible for undertaking project-specific environmental impact statements to consider both the positive and negative environmental impacts of a specific development from the construction stage through to decommissioning.

Since the programmatic EIS performed by MMS will focus on program or strategic, rather than a site or project-specific level of analysis, the level of detail that will be analyzed will vary from a typical site-specific EIS.

In developing the PEIS, MMS first should perform a spatial analysis based on existing data and map overlays to integrate information to assist with description of existing environment and to facilitate identification of areas of high and low constraints. The analysis should identify areas of serious conflicts to wind farm development (cultural heritage sites, existing shipping lanes, etc.).

In the PEIS, MMS then should perform a comparative analysis of various development scenarios in priority regions in areas of low constraints or conflicts. The impact analysis should assess the potential impacts with respect to:

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- The overall capacity of strategic regions to accommodate wind development at various scales.
- The likely development scenario achievable within strategic areas without significant conflict with major impact risks, namely areas of high sensitivity to visual impact, concentrations of sensitive seabirds, designated conservation sites, and main marine traffic areas.
- The potential for development scenarios to exclude fisheries from significant areas of fishing grounds.

In considering potential adverse environmental impacts, the PEIS also should take into account the economic and indisputable environmental benefits of generating energy using the renewable resource of offshore wind.

### ***PEIS consideration of cumulative impacts***

The MMS also should address, through the PEIS, the uncertainties of large scale wind development at the programmatic or strategic planning level, particularly cumulative and other impacts that apply equally to development regardless of locations (physical processes, benthic, noise, vibrations, EMF, etc.).

The PEIS must, as required under the National Environmental Policy Act, focus on cumulative impacts. This should be one of the key features addressed in the programmatic EIS, distinguishing it from individual project-specific environmental impact statements. It is important to identify key receptors (e.g., birds and fish in terms of habitat change and disturbance, and coastal communities with respect to visual and other socio-economic impacts) for cumulative impacts.

In the PEIS, MMS should assess cumulative impacts and should focus on the combined, incremental effects of:

- Wind farm development in strategic focus areas with other past, present or reasonably foreseeable development actions. These actions would likely include non-wind farm development actions if they are present or deemed likely to occur with a reasonable degree of certainty.
- The range of impacts, from wind farm development only.
- Development-related changes, over time, within the wind farm lifecycle.

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The programmatic EIS also should attempt to predict and evaluate cumulative impacts on ‘global’ issues such as biodiversity, greenhouse gas production (U.S. contribution), and global warming. These latter issues can only be tackled in very broad, general terms.

### ***Strategic-level Mitigation Approach to Minimize Environmental Disturbance***

In order to minimize environmental disturbance from wind farm development, CESA suggests that MMS consider adopting the following overall strategic approach:

- In all areas, avoid the majority of development within the nearshore zone of high visual sensitivity.
- Where development is to occur in nearshore areas, consider smaller scale development.
- Identify specific locations within strategic regions where wind farms may be operated or where there is a presumption in favor of wind farms.
- Use early wind farms as vehicles for monitoring to ascertain actual impacts. The knowledge and experience gained will assist in selection of other areas and individual application decisions.
- Require safety zones to be established around offshore wind installations and/or each turbine to minimize risk of collisions between vessels and the facility.

### ***Development of Best Practice Mitigation Guide***

The MMS also should issue a “best practice” guide for the industry on mitigation practices. The document should review international experience. The Guide’s objective should be to provide information and advice on how location decisions made by a developer can prevent and minimize adverse impacts prior to proceeding to permitting. This would help avoid the “retrofitting” of mitigation during the permit review process, and reduce transaction costs for developers.

### ***Project-Specific Environmental Impact Statements***

The grant of an Agreement to Lease should require developers to develop environmental impact statements to consider both the positive and negative environmental impacts of a specific development plan, “tiering” off the PEIS and targeting relevant project-specific impacts in appropriate detail. The MMS should tier off the decisions embedded in the PEIS and limit the scope of additional project-specific NEPA analyses to the extent that the PEIS addresses anticipated concerns with an individual project. The site-specific NEPA process should include

analyses of project site configuration and micro-siting considerations, monitoring program requirements, and appropriate mitigation measures in addition to the standard BMPs.

In addition, site-specific environmental analyses should be tiered from the PEIS to identify and assess any cumulative impacts beyond the scope of the cumulative effects addressed in the PEIS.

The main concerns for an offshore wind farm that should be evaluated are the potential effects on:

- Sediment transport processes;
- Conservation sites;
- Biodiversity habitats and species;
- Collision risk, displacement, disturbance and barrier effect on birds;
- Collision with cargo or fishing vessels;
- Exclusion or pre-emption, whether temporary (during installation) or permanent, of other uses of the OCS, including transport of cargo or commercial fishing;
- Visual impact depending on the nature of the seascape in the range of 5 to 8 miles.

Positive impacts are:

- Potential fisheries and biodiversity recovery areas that offer refuge from other activities;
- Job creation during construction and operational phases;
- Contribution to reduction in greenhouse gas and other emissions;
- Increased energy security.

### ***Addressing Uncertainty***

The MMS should ensure that first round projects are sited to avoid significant resource impacts based on the PEIS process and site specific environmental assessments. However, at the same time, MMS must accept that there will be a degree of uncertainty remaining, despite preparation of a high quality EIS, because of lack of existing data and lack of understanding of some effects. The main uncertainties are:

- Physical processes associated with large and multiple site development;
- Large scale, cumulative effects on the benthic environment from major development;
- Extent of impacts on birds;
- Underwater operational noise on marine mammals;
- Electric field effects on marine mammals and migratory fish;
- Impacts on recreation and tourism income.

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Since there is considerable uncertainty regarding these impacts, monitoring efforts should be employed by MMS so that future decisions can be made on an informed basis. “First round” wind farms should be used as vehicles for monitoring to determine actual impacts; knowledge and experience gained will assist in future site selection and permitting. For this approach to be effective, however, MMS must require development of comprehensive baseline data of existing information before construction occurs.

### ***Project Specific Impacts & Mitigation***

- Finfish resources and commercial/recreational fisheries

Preconstruction, construction, operation and decommissioning activities associated with wind farms all have potential impacts on fisheries resources. The 1966 amendments to the Magnuson-Stevens Fishery Conservation and Management Act require that Essential Fish Habitat consultation be conducted for any activity that may adversely affect important habitats of federally managed marine and anadromous fish species. EFH is defined as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity.” 16 U.S.C. §1802(10).

The major potential impacts that should be assessed related to commercial fishery activities and resources include:

- seismic-mediated mortality and physical damage of eggs, larvae, and adults;
- disturbance and redistribution of sediments during installation of turbines and cable laying;
- scouring of sediments in the immediate locale of each turbine;
- interruption of migration routes;
- physical loss of shellfish beds;
- loss of food resources for faunal groups;
- noise and vibration generated by operation of turbines;
- restrictions on angler and commercial fishing activities.

Mitigation measures that may be effective to reduce impacts to fisheries and to commercial and recreational activities include the following measures:

- no restrictions on fishing activities within the wind farm during operation;
- marking of turbines with USCG-approved lighting to ensure safe vessel operation;
- burial of cables;
- use of state-of-art hydraulic jet plow for cable installation;

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- use of monopile foundations for towers;
  - post-construction monitoring to document habitat disturbance and recovery.
- Protected Marine Species

The MMS, as the lead permitting agency, is mandated by section 7 of the Endangered Species Act (ESA) to consult with NMFS and USFWS if any federally protected species may be affected by a wind project on the OCS. The consultation will include preparation of a biological assessment. MMS should initiate consultations with NMFS and USFWS and prepare a biological assessment during the PEIS process.

The major potential impacts that should be assessed related to protected marine species include:

- Underwater sound and vibration;
- Biological or ecological effects from a change in acoustical environment;
- Exposures to EMF;
- Marine habitat alterations due to currents and circulation, sediment transport, wave disturbance, water quality, scouring, shoreline erosion.

Mitigation measures that may be effective in reducing these impacts include:

- Posting of an NMFS-certified observer during on-site construction activities;
  - Use of state of art hydraulic jet plow technology for cable installation;
  - Use of monopole foundations;
  - Post construction monitoring to document habitat disturbance and recovery;
  - Soft-start pile driving.
- Effects on Bird Habitat and Migration

The major potential impacts that should be assessed related to protected bird species include:

- Mortality due to collisions with turbines;
- Mortality due to nest abandonment resulting from human activity;
- Disturbance and displacement from suitable habitat;
- Disturbance and displacement of fish from suitable habitat, thereby causing bird disturbance;
- Impacts to lower food chain biota, such as benthic organisms during construction;
- Long-term alteration of ocean current by towers, leading to changes in food distribution and availability;
- Increases in bird use from enhancement of fisheries near towers.

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Impacts to avifauna may be reduced through a number of mitigation measures (*although many of these measures are not proven to be effective to date*), including:

- Use of single, large diameter tubular towers, rather than lattice towers and perimeter fences on turbine platforms to reduce perching
  - Use of minimal lighting: only white or red strobe lights should be used at night, and these should be the minimum number, minimum intensity, and minimum number of flashes per minute allowable by FAA. All lighting should be used a little as possible and shielded from direct view from sky or ocean;
  - Turbine rotors should not come within specified minimum heights to the ocean surface, with the height based on observed flight heights, to avoid water birds that fly close to water;
  - Use of larger rotor blades with fewer revolutions per minute;
  - Post-construction monitoring.
- Visual Sensitivity

Attention to the visual appearance aspects of wind farm location and design will play a significant role in public acceptability. An offshore wind project can add a built element to existing daytime views of the seascape, and changes in daytime views as presently experienced by recreational boaters.

The visual impact of turbines offshore will depend on their distance offshore, the weather conditions and the height above sea level of the viewpoint. The Cape Wind EIS concluded that the greatest visibility and visual contrast will occur at distances of less than approximately 8 miles. Beyond this distance, structures would become more obscure and components such as rotor blades become difficult to see. European studies indicate that a distance of 15 km may be the maximum limit of visual significance along the coast and within a seascape (Hill et al., 2001).

During the project level analysis, MMS should require visual simulations from publicly available views and other sensitive receptors, such as public parks and historic areas. Data on the proposed lighting system should be incorporated into nighttime simulations.

### ***Visual Mitigation***

Experience from Europe indicates that the specific design layout of turbines is important to minimizing visual effects. There is clearly an opportunity, in appropriate locations, to create offshore wind farm designs that contribute positively to seascape areas. Developers should be required to consider and reflect the following key parameters in developing a project:



- Coherence and balance from the maximum number of sensitive receptors;
- Relationship of layout and array to foreground and background;
- Perception and legibility of pattern;
- Compactness;
- Relationship to other offshore structures.

The MMS also should require mitigation measures to limit the direction and range of any lighting to minimize potential effects to visual amenity. The coloring of turbines also may help to mitigate visual impacts. For example, the Cape Wind project proposes to use blue-gray color for the visible structures to minimize structural visibility.

### ***Ensuring Mitigation Effectiveness***

The effectiveness of project mitigation measures should be assessed by MMS through a monitoring program (see discussion below in Q.17). MMS, with the assistance of a scientific advisory body, should review operational monitoring data supplied by developers and compare it to environmental baseline data to assess the effectiveness of mitigation measures.

Through use of an adaptive management strategy, the resulting studies should form the basis for revising the MMS BMPs to strengthen future mitigation measures as new data become available.

### ***16. What regulatory program elements lead to effective enforcement of environmental requirements?***

The most effective step that MMS can take to ensure environmental compliance is to implement a rigorous monitoring program for project operations with publicly available documentation of results. We also direct MMS to the International Network for Environmental Compliance and Enforcement. See <http://www.inece.org>.

### ***17. How should environmental management systems be monitored (by the applicant, the MMS or by an independent third party)? What should be the MMS roles versus the roles of industry for ensuring appropriate oversight and governance?***

Monitoring should not be viewed as merely a technical exercise to gather data, but as a mechanism to advance the understanding of the environmental issues associated with the development of offshore wind. Therefore, CESA recommends that MMS take a primary role in administering and managing the monitoring program rather than relying solely or primarily on the project developer to comply with monitoring requirements of a lease and permits. Because the number of offshore wind farms is likely to be small at first, active involvement by MMS in the monitoring program should be a manageable responsibility.

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CESA recommends that MMS create a rigorous strategy for monitoring. It is critical that the data, analysis, and experience acquired during the first years of operation and study of offshore wind projects are widely disseminated.

There is no experience in the U.S. of operating offshore wind farms and fairly limited experience offshore elsewhere. Therefore, the assumptions and methodology used when assessing impacts will need to be checked against the accumulating experience. It will be important that the results of monitoring studies be incorporated by MMS in its strategic planning of future developments and by developers in future siting and location decisions. Fortunately, MMS has extensive experience in this regard as a result of its responsibilities under the OCS oil and gas leasing program.

The MMS should require two types of monitoring for wind projects:

1. Mitigation monitoring as part of the permit compliance to ensure mitigation is being implemented and working as expected, and
2. Impact monitoring (particularly important for those impacts where there is considerable uncertainty concerning the scale and significance).

The MMS should require development of an institutional framework to manage the monitoring program and to undertake the following activities:

- Determine the need for specific monitoring studies;
- Determine the objective of the studies;
- Approve monitoring protocols proposed by developers;
- Select contractors hired to undertake the monitoring in a quality control function;
- Review results and evaluate implications in terms of objectives;
- Determine when a monitoring study should cease or be continued;
- Oversee a forum or other mechanism to ensure the results are disseminated publicly and widely;
- Require implementation of necessary measures at sites as necessary to address unforeseen impacts;
- Apply outcomes of monitoring and research to future developments.

CESA recommends that MMS develop a program of environmental monitoring with the input of a science advisory board, including academic and agency scientists, to develop an appropriate set of protocols for data collection and adaptive responses. The OCS Science Committee seems a logical vehicle for this role and should be involved in ensuring that data collection and interpretation is objective. All environmental data collected from a project should be made available to the public, in electronic format.

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Monitoring can be expensive, especially for ecological impacts. Therefore, through the PEIS planning process, MMS should require consultation between permitting agencies, the industry, and environmental organizations to guide necessary impact monitoring requirements. This monitoring-related consultation should address:

- Identification of impacts to be monitored in priority order;
- Design of appropriate monitoring programs for each identified impact;
- Likely duration of individual monitoring programs;
- Recommendations on reasonable cost and cost sharing of overall monitoring recommendations.

At the individual project level, a monitoring program should include pre-construction monitoring, monitoring of impacts during construction, and monitoring during operation. MMS should establish a BMP that requires a developer, as a condition of the Agreement to Lease, to design a monitoring program to ensure environmental conditions are monitored during the construction, operation, and decommissioning phases. The monitoring program should identify the monitoring requirements for each environmental resource present at the site, establish metrics against which monitoring observations can be measured, identify potential mitigation measures, and establish protocols for incorporating monitoring observations and additional mitigation measures into standard operating procedures.

- ***Program area: Operational Activities***

- ***O. Permitting pilot projects***

CESA strongly supports the authorization of pilot projects by MMS in order to advance the understanding of the environmental issues associated with offshore wind development. Pilot projects should be facilitated by MMS in the early phase of the offshore wind energy industry, and completion of a PEIS process should not be a prerequisite for the approval of pilot projects.

CESA recommends that MMS provide for an expedited permitting and leasing process for pilot projects to encourage the deployment and gathering of information that can serve as the basis for determining the merits of future commercial project proposals, and for advancement of the technology.

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- ***Program area: Payments and Revenues***

***General issues:***

***Y. Bonus bids***

CESA recommends against the use of bonus bids for alternate energy-related uses of the OCS. MMS employs bonus bids as an up-front cash payment to secure a lease in the oil and gas leasing program, with leases awarded to the highest bidder. CESA believes that offshore wind development leases should not be allocated based primarily on the greatest cash consideration, but rather on the credibility of the development plan.

Further, because of the significant capital investment and risk challenges facing offshore wind developers, the use of bonus bids could stifle the growth of offshore wind energy development. While the oil and gas industries have adequate access to capital resources, in the context of offshore wind energy leasing, bonuses would represent additional capital barriers to entry, reducing the number of developers capable of meeting the levels of capital investment necessary to participate in the emerging offshore wind industry.

We also suggest that, because OCS wind resources represent a non-depleting resource, a bonus bid is not justified (and royalty rates imposed on the value of production should be modest).

***AA. Royalty terms***

Under the EPLA of 2005, Section 388, States with offshore wind development are to receive a direct share of federal revenues generated by these activities. Section 388 states that:

The Secretary shall provide for payment of 27 percent of the revenues received by the Federal Government as a result of payments under this section from projects that are located wholly or *partially* within the area extending three nautical miles seaward of State submerged lands. Payments shall be made based on a formula established by the Secretary ... that provides for ***equitable distribution***, based on proximity to the project, among coastal states that have a coastline that is located within 15 miles of the geographic center of the project.

*Id.* (emphasis added).

Pursuant to this provision, CESA recommends that use of royalties be the primary revenue consideration required from alternate energy developers for use of OCS resources. CESA further recommends that the total royalties collected represent no more than 1-2% of a project's gross revenues, which should prove not to be a major obstacle for the industry.

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As for state distribution of royalty revenues, CESA recommends that there should be two fundamental purposes for revenue sharing with affected states: (1) to fund projects that will mitigate for the environmental and economic impact of OCS energy development, and (2) to help promote development of renewable energy resources.

Specifically, CESA recommends that:

1. the legal definition of located “partially” within the area extending three nautical miles seaward of the State submerged lands include the facility’s cable to shore.
2. the equitable distribution formula should be based on the extent and magnitude of adverse effects imposed on a particular state’s fishing resources as restrictions on commercial fishing areas are likely to be the greatest negative impacts stemming from offshore wind energy development. Therefore, equitable distribution of the 27% State royalty share should be determined by the relative degree of constraints placed on a state’s fishery by a wind farm. To make this determination, new metrics would need to be developed in consultation with coastal state officials.
3. the state royalty share should be fixed and, if royalty relief is needed, the federal share should be reduced.

### ***Royalty relief***

In the early years of the alternate energy program, the MMS should consider reducing the royalty requirement from what is normally levied on oil and gas developers as necessary to promote increased renewable energy development on the OCS.

The MMS also should provide royalty relief for deep water wind installations, as it has for oil and gas leasing operations in deepwater regions. There are even greater barriers to wind development in deepwater, due to the high cost of activity in deepwater regions. MMS should structure royalties to encourage pilot projects to test deep water foundations for turbines.

### ***Use of Royalties***

The MMS should consider directing the federal share of royalties into:

- a strategic planning fund for offshore wind development to assist with development of PEISs and MMS strategic planning;
- mitigation of state and local impacts from offshore wind development; and
- a coordinated research program with coastal states for technological and environmental research related to offshore wind development.

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***Specific questions:***

***23. What should the payment structure be designed to collect? Should payments be targeted at charging for use of the seabed? Should payments try to capture the opportunity costs of other activities displaced by the activity? Should the payment structure be designed to capture a portion of the revenue stream, and if so, under what circumstances?***

The payment structure for alternate-energy projects should be designed to collect a fair return for the rental of the OCS seabed including a modest revenue stream via royalties.

The MMS should work with the wind industry to determine reasonable rent and royalty provisions. A rent basis should be established for all new leases to be granted through an extended period (e.g., 20 years) to give certainty to the industry about the rent to be charged. However, MMS also should continue to monitor and review the effect of rental payments on this emerging industry. Should economic evidence emerge indicating that the viability of future developments is being impeded by the payment structure, MMS should review whether a revision would be justified.

In the UK, the Crown Estate has reviewed this issue for offshore wind projects and concluded that the rent basis for all new leases granted for offshore installations should be at a rate of 2% of gross revenues with a full rent review after 20 years. This 2% is a small fraction of the costs of an offshore project, and has proved not to be a major consideration for the industry in the UK. See DTI *Future Offshore* (2002).

The MMS also should charge a fee to cover its administrative costs. Fees should be charged to cover the administrative costs of performing the associated PEIS process, granting leases and permits for offshore activity, and for the costs of MMS taking primary responsibility for managing the monitoring system, as recommended above.

CESA recommends against the consideration of opportunity costs during the initial period of this program. Federal royalties could be used to displace some of these opportunity costs. However, there appears to be no legal requirement to impose payments to capture opportunity costs. If Congress intended that such costs would be addressed, § 8(p) of the OCSLA, as amended by § 388, would have stated so.

***24. Offshore renewable energy technologies are in their infancy. Should the payment structure be designed to encourage the development of these activities until the technologies are better established?***

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Yes. CESA strongly believes that the payment structure should be designed to encourage the development of renewable energy technologies on the OCS. In developing the requirements for financial consideration, MMS should seek to foster the development of the offshore wind technology and promote more equitable competition between renewable and conventional energy sources.

One of the key challenges for MMS is to implement a successful program that allows alternate-energy facilities to achieve cost-competitiveness. For example, today's costs of offshore wind energy production are higher than for onshore facilities. Therefore, the economic viability of individual offshore wind projects will have to be improved in order for offshore wind systems to become a reality. MMS also should consider that developers and investors in these projects are required to undertake large levels of investment and risk, at least at the outset. Therefore, the MMS approach to payments and revenues must ensure the creation of favorable economics as a primary objective.

CESA strongly recommends that the emerging status of these technologies and this industry be considered at all stages in designing the payment program.

***28. Increased reliance on renewable energy offers both economic and environmental benefits. What are the public benefits to society and do they differ from market driven benefits?***

Offshore wind energy offers substantial public benefits to society that should be recognized and credited by MMS in structuring a payment program. These benefits are effectively described in the recent *Framework for Offshore Wind Energy Development in the United States*, developed by the Massachusetts Technology Collaborative, DOE, and GE (2005). The report also emphasizes that the ocean environment itself will benefit from an aggressive push to develop offshore wind on the OCS:

Interestingly, the move towards offshore wind energy development is leading to a convergence of two of society's most pressing environmental challenges: to curtail the emissions of noxious and heat-trapping gases being released into the atmosphere and to sustainably manage our ocean resources.

Earth's ocean and atmosphere are both in peril... In particular, unprecedented concentrations of carbon dioxide, nitrogen oxide, and other emissions resulting from the combustion of fossil fuels threaten to alter the composition of the atmosphere and undermine the integrity of both aquatic and terrestrial ecosystems. An aggressive push for renewable energy production will start us down a path to reducing these environmental and public health threats. ... It is imperative that offshore wind energy is included as an integral part of ocean management dialogue and that the

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development of a U.S. offshore wind energy industry is conducted in a way that supports the improved health and management of our nation's marine resources.

\* \* \*

Besides its demonstrated cost competitiveness onshore, wind is an attractive energy option because it is clean, indigenous, and non-depletable resource, with long-term environmental and public health benefits. ... wind is an attractive technology with which to diversify the nation's power portfolio and help relieve the pressure on natural gas prices.

*Id.* at 3, 10.

These benefits differ from market driven benefits such as increased jobs, tax bases, and U.S. wind energy sector corporate development resulting from new construction and operations.

***29. In Section 8 (p) of the OCSLA as amended by Section 388 of the Energy Policy Act, the Secretary must require the holder of a lease, easement or right of way granted under that subsection to furnish a surety bond or other form of security. What options should MMS consider to comply with this requirement?***

The MMS should require financial bonds for all wind energy development projects to ensure compliance with the terms and conditions of the lease authorization and requirements of applicable regulatory requirements, including reclamation costs.

No work should be commenced on a site until a bond is in place to ensure acceptable decommissioning and restoration. The bond should cover all works and measures to restore a site in accordance with a site restoration plan agreed to by MMS.

CESA does not have a precise design recommendation for the kind of financial instruments to be employed. However, it is desirable that the size of the bond or deposit reflect the likely cost of the decommissioning process should the need arise at any stage of the project's intended life-cycle. However, in establishing the bond requirements, we recommend that MMS not allocate the financial risk solely on the pioneers of this industry, but spread the risk more widely in recognition of the wider public benefits of renewable energy, through development of arrangements for pooling or subsidizing risk for early projects.

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- ***Program Area: Coordination and Consultation***

***30. While MMS considers this ANOPR an appropriate start at consultation with interested and affected parties, what other efforts could be undertaken at this early stage of program development?***

Before going further with development of a regulatory program, CESA recommends that the MMS employ a more collaborative process with the major stakeholders. We believe that a collaborative dialogue, conducted through a series of meetings over the next few months, would allow the Service to better understand state perspectives, solicit effective approaches to facilitate appropriate offshore renewable energy siting, and create a better alignment of state and federal interests and cooperation. Specifically, CESA recommends immediate establishment of a working group, or convening of workshops, with representatives from the wind industry, CESA, officials from coastal states with responsibility for marine and energy management, environmental ngos, and other interested parties, to ensure meaningful discussion with stakeholders in developing the new Renewable Energy Program.

CESA offers to convene this working group, if MMS is interested.

***31. Should a broad approach be taken to developing a program or should efforts be targeted to specific regions with commensurate coordination and consultation?***

CESA recommends development of a broad national program with the involvement of the OCS Policy Committee. However, it should be implemented on the regional level by MMS Regional Directors that would oversee the development of a regional strategic planning effort through the use of state/federal/regional stakeholder advisory committees, similar to those used for the OCS oil and gas program. These regional groups then would be responsible for evaluating and identifying targeted lease areas within their region. Initial suggested regions include: the North Atlantic, the Mid-Atlantic, the South Atlantic, the Eastern, Central and Western Gulf of Mexico, Northern Pacific and Southern Pacific, and the various planning areas in Alaska.

***32. Would the establishment of Federal/state cooperatives for targeted areas be useful? Similar to the process for OCS oil and gas program formulation, should we solicit comments on which areas of the OCS should be included or excluded from the program? After establishing where there is consensus in support of program activities, should coordination and consultation efforts be directed to those areas? Conversely, should such efforts be curtailed or abandoned for areas recommended for exclusion?***

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***State consultation & cooperatives:***

It is critical that MMS establish an offshore leasing regime that is coordinated with the states as required by section 8(p)(7) of the OCSLA, as amended by § 388. Therefore, CESA strongly recommends that MMS create a formal federal-state cooperative/collaborative framework, as envisioned by CESA's recommended integrated PEIS process, to coordinate and consult with the governors of each of the affected coastal states and with relevant state agencies in developing a regional PEIS and in conducting individual project reviews.

A primary objective of the recommended PEIS process is to identify focus areas for wind development on the OCS that have support from state officials and resource agencies. To that end, the governors of affected states should be consulted during the PEIS process for comments on which areas of the OCS should be included or excluded. Further, prior to the issuance of a regional PEIS and prior to issuance of a project-specific lease, the governor of each affected state should be given the opportunity to identify any inconsistencies between the proposed MMS action and state plans and to provide recommendations in writing.

***MMS should focus initial leasing activity on PEIS-identified, consensus-based leasing areas:***

Once a PEIS is completed that identifies both preferred development areas and exclusions of limited areas, further environmental assessment, consultation, and leasing activities should be directed to those preferred areas. Areas recommended for exclusion should stand, with further planning and evaluation actions in these areas curtailed, absent significant new evidence.

***Recommended state consultation regulations:***

Use of the recommended PEIS process should facilitate compliance with the Coastal Zone Management Act (CZMA) which requires a federal consistency review for the impacts on a state coastal zone from federal actions in federal waters. 16 USC §1456(c). Under the CZMA, states have some authority to assure the MMS permitted energy projects on the OCS will not result in a violation of state coastal zone management regulations.

To facilitate CZMA consistency reviews, MMS should develop specific regulations to ensure formal and effective state consultation. The regulations should require that:

- The MMS invite the adjacent state governor(s) to join in the establishment of a state-federal joint planning and coordination arrangement for input into the development of a PEIS for a strategic wind development region or where there is an interest expressed by industry in OCS leasing in specific areas. When more than one state is involved, the regional technical working groups assembled to review oil and gas proposals could be used for this purpose. Participation in any joint state-federal planning cooperative should afford the affected state governor(s) with access to available data and information about

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the area; knowledge of progress made in the leasing process and of the results of subsequent exploration and development activities; facilitate the resolution of issues of mutual interest; and provide a mechanism for planning, coordination, consultation, and other activities which the MMS and the governor(s) may identify as contributing to the leasing process.

- The MMS establish state-federal cooperative arrangements to provide a forum which the MMS and adjacent state governor(s) may use for planning, consultation, and coordination on concerns associated with the offering of the OCS for wind development leasing. Again, the regional technical working groups can be reconvened for this purpose, along with the OCS Policy Committee, when more than one state is involved.
- Each state/federal cooperative arrangement should be authorized to make recommendations to the MMS and adjacent state governor(s) concerning:
  1. The identification of areas in which offshore alternate-energy resources might be offered for lease;
  2. The potential for conflicts between the exploration and development of OCS resources, other users and uses of the area, and means for resolution or mitigation of these conflicts;
  3. Potential environmental problems and measures that might be taken to mitigate these problems;
  4. Development of guidelines and procedures for safe, environmentally responsible exploration and development practices;
  5. Distribution and use of shared royalties;
  6. Other issues of concern to the MMS and adjacent state governor(s);
  7. State/Federal task forces or other such arrangements that might be useful for conducting or overseeing research, studies, or monitoring.

CESA also recommends creation of state/federal cooperative arrangements for offshore wind-related research, including addressing baseline data gaps and impact studies.

- 33. What are the critical stages (e.g. site evaluation, application, competitive sale) for consultation with affected parties?*
- 34. Should procedures for consulting with interested and affected parties be codified in the regulations? In general? In detail?*
- and*
- 35. What processes can MMS use to provide for balance between consultations and the time and burden to the projects?*

CESA is recommending an integrated planning process that is front loaded and places the onus very much on MMS to ensure effective consultation. Through this process, MMS will conduct programmatic studies to inform the initial screening and pre-application stage to facilitate more simplified permitting through the later stages of specific project review. Effective consultation procedures will be critical to the success of this integrated process.

In general, MMS should promote a coordinated and streamlined approach by other federal and state agencies to the review and issuance of permits required by developers. This is most effectively achieved if MMS establishes itself as the lead agency in the leasing and permitting of offshore wind projects, responsible for receiving and coordinating all permitting application reviews by other federal agencies. As the lead agency, MMS should play a pivotal role in:

- Coordinating consultation and review of all applications under all federal environmental regulations by all federal agencies;
- Act as the point of direct liaison with regard to all consultations;
- Work with adjacent states to identify a lead state agency in each adjacent state that is responsible for working with MMS in facilitating review and permitting by all other in-state agencies through a coordinated and streamlined state process.

At the same time, MMS must emphasize to project developers that the MMS lead role is not intended to affect or compromise the statutory role of state and federal agencies or the developer's responsibility to obtain all relevant statutory approvals.

During the actual leasing process, MMS should seek to consolidate the environmental impact review processes at the state and federal level. MMS can take several steps to accomplish this. First, as a condition of the Agreement to Lease, an applicant should be required to work cooperatively with the federal and state review agencies to coordinate and develop one comprehensive document that will fulfill project review requirements under federal and affected state regulations. NEPA allows for and encourages this consolidated review. Second, MMS should ensure that federal and state agencies undertake joint hearings to allow the public to be fully informed on the multiple jurisdictional requirements. Third, MMS should develop memoranda of understanding with affected coastal states and federal agencies to ensure this coordinated review. The benefits of this joint approach are common resolution of issues raised by multiple agencies.

The MMS also can use stipulations in an Agreement to Lease to ensure that developers take seriously their responsibility for effective consultation and timely resolution of regulatory issues. Among other requirements, the lease agreement can expressly require that the developer:

- a) open an early dialogue between the permitting authorities, statutory bodies, and other stakeholders, to help identify potential issues at the earliest stage of planning of any wind farm project.
- b) undertake an early scoping exercise to determine the main issues that should be addressed within the environmental impact statement.
- c) stipulate to implement established best management practice procedures during offshore surveying, construction, and operation.
- d) obtain all necessary permits within a fixed period (3 to 5 years).
- e) notify MMS of regulatory conflicts so MMS can intervene to foster conflict resolution.

Finally, CESA recommends detailed codification of the consultation procedures in formal regulations.

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